ABSTRACT OF THE DISCLOSURE

Embodiments of the invention present implementations for multiple access source coding (MASC). One embodiment presents an implementation directed at the lossless side-information case of MASC. Another embodiment gives an implementation of the general case MASC. One embodiment is a near-lossless implementation of MASC. In a two dimensional example, the invention provides a way to decode data pairs (x, y) from encoded individual data streams x and y. The present invention provides a solution that partitions the source code into optimal partitions and then finds a matched code that is optimal for the given partition. Embodiments of the present invention use Optimal Shannon, Huffman and Arithmetic Codes for the matched codes. Another embodiment of the present invention gives a method of finding near-lossless multiple access source coding.